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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/587,179	07/25/2006	Tomohiro Shinagawa	128824	7266

25944 7590 10/15/2007

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EXAMINER	
COLEMAN, KEITH A	

ART UNIT	PAPER NUMBER
4175	

MAIL DATE	DELIVERY MODE
10/15/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/587,179	SHINAGAWA ET AL.	
	Examiner	Art Unit	
	Keith A. Coleman	3709	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-3 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-3 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 25 July 2006 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date 8/10/2007;7/25/2006.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and In *re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-3 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1-5 of U.S. Patent No. 7,089,907. Although the conflicting claims are not identical, they are not patentably distinct from each other because:

With regards to claim 1, Patent 7,089,907 discloses a hydrogenated fuel tank which is replenished with an organic hydride-contained hydrogenated fuel (Claim 3 from Patent 7,089,907), a gasoline tank which is replenished with a normal gasoline (Claim 2 from Patent 7,089,907), fuel Separating means for separating the hydrogenated fuel into a hydrogen rich gas and a dehydrogenation product (Claim 1 from Patent

7,089,907), hydrogen rich gas consuming means for consuming the hydrogen rich gas (Claim 4 from Patent 7,089,907), dehydrogenation product mixing means for mixing the dehydrogenation product with the normal gasoline (Claim 2 from Patent 7,089,907), and fuel supplying means by which a mixed fuel composed of the normal gasoline and the dehydrogenation product is supplied to an internal combustion engine (Claim 3 from Patent 7,089,907). Since applicant explicitly states that dehydrogenated fuel is normal fuel (Col. 4, Lines 53-54 from Patent 7,089,907), the gasoline buffer tank (48) is obviously and simultaneously the mixing tank, the gasoline storage tank, and dehydrogenation tank.

With regards to claim 2, Patent 7,089,907 discloses wherein the dehydrogenation product mixing means includes: dehydrogenation product guiding means for guiding the dehydrogenation product into the gasoline tank (Claim 2 from Patent 7,089,907); mixed ratio detecting means for detecting the mixed ratio of the dehydrogenation product in the gasoline tank (Claim 1 from Patent 7,089,907) and dehydrogenation product stopping means for prohibiting the dehydrogenation product from flowing into the gasoline tank if the mixed ratio exceeds the maximum allowable mixed ratio (Claim 3 from Patent 7,089,907). Since applicant explicitly states that dehydrogenated fuel is normal fuel (Col. 4, Lines 53-54 from Patent 7,089,907), the gasoline buffer tank (48) is obviously and simultaneously the mixing tank, the gasoline storage tank, and dehydrogenation tank.

With regards to claim 3, Patent 7,089,907 discloses wherein: a dehydrogenation product tank to pool the dehydrogenation product is provided (Claim 2 from Patent 7,089,907) the dehydrogenation product guiding means includes a flow separator (Claim 1 from Patent 7,089,907) capable of implementing a first state in which the dehydrogenation product is guided into the gasoline tank (Claims 1 and 2 from Patent 7,089,907) and a second state in which the dehydrogenation product is guided into the dehydrogenation product tank (Claims 1 and 2 from Patent 7,089,907) and the dehydrogenation product stopping means includes flow separator control means which sets the flow separator to the second state if the mixed ratio exceeds the maximum allowable mixed ratio (Claims 1-5 from Patent 7,089,907); and there is provided alarming means which if the amount of the dehydrogenation product pooled in the dehydrogenation product tank reaches the maximum allowable amount, issues an alarm about the condition (Claim 5 from Patent 7,089,907). Since an alarm is defined as an electrical, electronic, or mechanical device that serves to warn of danger by means of signal, it obvious that a device, i.e. a sensor, is producing a signal to warn when a threshold has been reached to stop the dehydrogenation reaction and supply to the gasoline/dehydrogenation tank (Claim 5 from Patent 7,089,907). Since applicant explicitly states that dehydrogenated fuel is normal fuel (Col. 4, Lines 53-54 from Patent 7,089,907), the gasoline buffer tank (48) is obviously and simultaneously the mixing tank, the gasoline storage tank, and dehydrogenation tank and the first and second states claimed are the same states.

Allowable Subject Matter

3. Claims 1-3 appear to be allowable over the prior art of record; however, the obvious-type doubling patenting rejections must be resolved. The following is a statement of reasons for the indication of allowable subject matter:

Claims 1-3 appear to be allowable over the prior art of record because the prior art does not anticipate nor render obvious separating fuel into hydrogenated and dehydrogenated fuel and each fuel to be used separately for an internal combustion engine. Furthermore, the usage of a controller to regulate each of the fuels and the structure comprising a dehydrogenated tank and hydrogenated tank both connected to a separator and the internal combustion engine is not anticipated nor render obvious over the prior art of record.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The patent to Cohn et al. (US Patent No. 6,655,324) shows the current state of the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Keith A. Coleman whose telephone number is 571-270-3516. The examiner can normally be reached on Monday through Friday between 8-5 Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrence Till can be reached on (571) 272-1280. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Terrence R. Till
Supervisory Patent Examiner

KAC